

Appl. No. 09/328,025
Amendment and/or Response
Reply to Office action of 15 March 2004

Page 3 of 11

Amendments to the Claims:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) Method-A method for transferring real time information, in particular audio information, the method comprising the steps of:

[[-]] encoding consecutive segments of the real time information to compressed real time data in frames,

[[-]] transmitting a signal carrying the compressed real time data,

[[-]] receiving the signal and retrieving the compressed real time data,

[[-]] storing the received compressed real time data in a playback buffer, and

[[-]] decoding the compressed real time data from the playback buffer,
~~characterized in that the method comprises the steps of~~

[[-]] determining, before transmitting, a buffer occupancy for at least one frame, which buffer occupancy is indicative of an amount of compressed real time data to be present in the playback buffer at the start of decoding said frame,

[[-]] transferring the buffer occupancy via the signal,

[[-]] controlling the retrieving and/or the decoding in dependence on said transferred buffer occupancy.

2. (Currently amended) Signal-A signal carrying real time information, in particular audio information, which real time information is encoded to compressed real time data in frames relating to consecutive segments of the real time information, ~~characterized in that wherein~~
~~the signal comprises a buffer occupancy for at least one frame, which buffer~~
~~occupancy is indicative of an amount of compressed real time data to be present in a playback~~
~~buffer at the start of decoding said frame.~~

Appl. No. 09/328,025
Amendment and/or Response
Reply to Office action of 15 March 2004

Page 4 of 11

3. (Currently amended) ~~Method~~ A method for recording audio information on a record carrier, the method comprising the steps of:

[[[-]]] encoding consecutive segments of the audio information to compressed audio data in frames, and

[[[-]]] recording the compressed audio data,

~~characterized in that the method comprises the steps of~~

[[[-]]] determining a buffer occupancy for at least one frame, which buffer occupancy is indicative of an amount of compressed audio data to be present in a playback buffer at the start of decoding said frame, and

[[[-]]] recording the buffer occupancy on the record carrier.

4. (Currently amended) ~~Method~~ The method of recording as claimed in claim 3, ~~characterized in that~~wherein

the buffer occupancy is indicative of the amount of compressed audio data to be present in the playback buffer at the start of decoding said frame before the compressed audio data relating to said frame is removed from said buffer.

5. (Currently amended) ~~Method~~ The method of recording as claimed in claim 3, ~~characterized in that~~wherein

determining the buffer occupancy comprises the step of determining ~~the~~ an amount of compressed audio data in a recording buffer before or after encoding said frame.

Appl. No. 09/328,025
Amendment and/or Response
Reply to Office action of 15 March 2004

Page 5 of 11

6. (Currently amended) ~~Recording~~ A recording device for recording audio information on a record carrier, the device comprising:

[[[-]]] ~~compression means (35) for encoding a compression element that is configured to encode~~ consecutive segments of the audio information to compressed audio data in frames, and

[[[-]]] ~~recording means (38,39) for recording a recording element that is configured to record~~ the compressed audio data on the record carrier, ~~characterized in that~~ wherein

[[[-]]] ~~the device comprises determining means (20) for determining an occupancy determinator that is configured to determine~~ a buffer occupancy for at least one frame, which buffer occupancy is indicative of an amount of compressed audio data to be present in a playback buffer at the start of decoding ~~said the~~ frame, and ~~in that~~

[[[-]]] ~~the recording element is configured to record~~ means (38,39) are arranged for recording the buffer occupancy on the record carrier.

7. (Currently amended) ~~Recording~~ The recording device as claimed in claim 6, ~~characterized in that~~ wherein

the device comprises a recording buffer (36), and ~~in that the determining means (20) are arranged for determining the occupancy determinator is configured to determine~~ the buffer occupancy in dependence on an amount of compressed audio data present in the recording buffer before or after encoding ~~said the~~ frame.

8. (Currently amended) ~~Record~~ A record carrier carrying audio information, which audio information is encoded to compressed audio data in frames relating to consecutive segments of the audio information, ~~characterized in that the record carrier comprises comprising~~ a buffer occupancy for at least one frame, which buffer occupancy is indicative of an amount of compressed audio data to be present in a playback buffer at the start of decoding ~~said the~~ frame.

Appl. No. 09/328,025
Amendment and/or Response
Reply to Office action of 15 March 2004

Page 6 of 11

9. (Currently amended) ~~Record~~ The record carrier as claimed in claim 8, characterized in that wherein

the buffer occupancy is indicative of the amount of compressed audio data to be present in the playback buffer at the start of decoding said frame before the compressed audio data relating to said frame is removed from said the playback buffer.

10-11. (Canceled)

12. (Currently amended) ~~Playback~~ A playback device for retrieving audio information from a record carrier as claimed in claim 5, which device comprises

al
[[-]] reading means (22,27) for retrieving a reader that is configured to retrieve the compressed audio data from the record carrier,

[[-]] a playback buffer (29), and

[[-]] de-compression means (31) for decoding a de-compression element that is configured to decode frames of compressed audio data from the playback buffer to consecutive segments of the audio information,

characterized in that the device comprises

[[-]] means (28) for retrieving an occupancy reader that is configured to retrieve the buffer occupancy for at least one frame from the record carrier, and

[[-]] control means (20) for controlling the reading means and/or the de-compression means a controller that is configured to control at least one of the reader and the de-compression element in dependence on said the retrieved buffer occupancy.

13. (Currently amended) ~~Playback~~ The playback device as claimed in claim 12, characterized in that wherein the control means (20) are arranged controller is configured to control the de-compression element means (31) to start decoding a frame when the amount of compressed audio data in the playback buffer substantially corresponds to the buffer occupancy.

14. (Canceled)

Appl. No. 09/328,025
Amendment and/or Response
Reply to Office action of 15 March 2004

Page 7 of 11

15. (New) The record carrier as claimed in claim 8, wherein
the record carrier comprises frame information for at least one frame, which frame
information is located in a header area associated with said frame, and which frame
information comprises the buffer occupancy.

16. (New) The record carrier as claimed in claim 9, wherein
the record carrier comprises frame information for at least one frame, which frame
information is located in a header area associated with said frame, and which frame
information comprises the buffer occupancy.

17. (New) The record carrier as claimed in claim 8, wherein
the record carrier comprises a pause area between two audio items, in which pause
area a series of buffer occupancies is indicative for a change in transfer speed from a first
transfer speed at the end of the preceding audio item to a second transfer speed at the start
of the following audio item.

18. (New) The record carrier as claimed in claim 9, wherein
the record carrier comprises a pause area between two audio items, in which pause
area a series of buffer occupancies is indicative for a change in transfer speed from a first
transfer speed at the end of the preceding audio item to a second transfer speed at the start
of the following audio item.

19. (New) The record carrier as claimed in claim 15, wherein
the record carrier comprises a pause area between two audio items, in which pause
area a series of buffer occupancies is indicative for a change in transfer speed from a first
transfer speed at the end of the preceding audio item to a second transfer speed at the start
of the following audio item.

Appl. No. 09/328,025
Amendment and/or Response
Reply to Office action of 15 March 2004

Page 8 of 11

20. (New) The record carrier as claimed in claim 16, wherein

the record carrier comprises a pause area between two audio items, in which pause area a series of buffer occupancies is indicative for a change in transfer speed from a first transfer speed at the end of the preceding audio item to a second transfer speed at the start of the following audio item.

az
21. (New) Playback device as claimed in claim 12, wherein the controller is configured to control the reader to adapt a speed of retrieving the compressed audio data from the record carrier in dependence on a difference between the buffer occupancy and the actual amount of compressed audio data present in the playback buffer at the start of decoding the frame.

22. (New) Playback device as claimed in claim 13, wherein the controller is configured to control the reader to adapt a speed of retrieving the compressed audio data from the record carrier in dependence on a difference between the buffer occupancy and the actual amount of compressed audio data present in the playback buffer at the start of decoding the frame.